

mental health AIDS

A Quarterly Update from the New England HIV Education Consortium and the New England AIDS Education and Training Center Volume 4(1), Fall 2002

Biopsychosocial Update

HIV Prevention News

About Men

Crosby, Sanders, Yarber, Graham, and Dodge (2002) surveyed 158 heterosexually-active college men and found condom use errors (e.g., putting condoms on after initiating sex [reported by 43% of respondents] or removing condoms before concluding sex [15%]; not leaving space at the condom tip [40%]; placing the condom on "wrong side up" and having to flip it over [30%]) to be quite common. High error scores were, in turn, associated with breakage or slippage of condoms during sex, experienced by 35% of those surveyed. Moreover, 60% of these men did not discuss using condoms with their partners prior to initiating sex, 42% reported a desire to use condoms but having none available, and 32% reported that they lost an erection while using condoms. While it remains critical for clinicians to focus on communication and planning to promote consistent condom use, it may also be necessary to ensure that sexually-active men have access to formalized condom-use education and specific, skills-building instruction tailored to identified errors and problems to promote correct condom use.

Analyzing data collected from 197, mostly African-American, men living with HIV in Atlanta, Kalichman, Weinhardt, DiFonzo, Austin, and Luke (2002) tested a model – previously applied to men at risk for HIV – suggesting that HIV-positive men highly disposed toward "sensation seeking" (i.e., the pursuit of heightened arousal and sensory stimulation) were more likely to use alcohol and to engage in unprotected intercourse. Not surprisingly, the pattern of associations observed in their earlier research (i.e., sensation seeking associated with alcohol use outcome expectancies [i.e., expecting that

alcohol would enhance sexual performance and heighten sexual pleasure], associated with alcohol use in sexual contexts, associated with unprotected intercourse) was also observed here. Additionally, HIV-positive men who made use of alcohol in sexual contexts were found to drink more often and in greater quantities than those who did not.

Since personality dispositions like sensation seeking and their relationship to risky

behavior are difficult to address, Kalichman and colleagues encourage clinicians to challenge both alcohol outcome expectancies of enhanced sexual pleasure and performance in men at risk of transmitting HIV who use alcohol in the sexual context as well as the use of alcohol itself under those circumstances. Moreover,

studies have shown that HIV-positive men may use alcohol as a means of ... escaping from the stress of living with a chronic, life-threatening illness, [and] coping with the stress of potentially transmitting HIV in sexual situations. Therefore, interventions that assist [these] men in developing adaptive coping behaviors to replace alcohol use ... may [help to reduce] HIV-transmission risk behaviors. In addition, substance abuse treatment itself ... may have promise [as an HIV risk reduction strategy] for HIV-positive men. Finally, because alcohol and other drug use in sexual contexts is most likely to involve both partners, intervention approaches that target breaking the substance use/risky sex association in couples also may prove effective. ... (p. 234)

With regard to intervention, Elwy, Hart, Hawkes, and Petticrew (2002) conducted a meta-analysis of 27 studies describing social and behavioral interventions to reduce HIV and sexually transmitted disease (STD) transmission in heterosexual men. Only eight of the studies were designed to reduce new HIV/STD infections. Among these, five were successful, two were not, and one produced equivocal findings. Among the five successful interventions, one was conducted in the workplace, one in the military, and three in STD clinics; interventions included on-site individual HIV

counseling and testing, nationwide communications regarding risk reduction, and multi-component motivation and skills education.

The remaining studies focused on changing men's attitudes, intentions, and/or behaviors. Although varying degrees of success were noted with a variety of targeted populations (e.g., drug users in treatment, out-of-treatment injecting drug users [IDUs], STD clinic attendees, homeless men, prisoners, students) and with a variety of approaches (e.g., individual counseling, group counseling, interventions involving men and women, interventions involving men only),

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no single method was found that changed attitudes and behaviors across all situations. While these assorted successes are encouraging, "[o]n the basis of the present review, it is not possible to prescribe the optimum approach to reduce the risk of transmission of [STDs], including HIV, in heterosexual men." We identified relatively few methodologically rigorous studies (and even fewer with a gold standard biological indicator of behavior as the outcome) and no single consistently effective approach to reduce incident infections, change behavior or change social psychological outcomes" (p. 1828). Clearly, more methodologically-sound research is needed.

About Women

With methodological rigor, Hobfoll, Jackson, Lavin, Johnson, and Schröder (2002) randomized 935 single, inner-city women to one of three conditions: 1) a small, six-session, HIV prevention group that involved facilitated, interactive use of studio-quality videotapes and reinforced the effect of a woman's behavior on herself and those to whom she is attached; 2) a general health promotion intervention comparison group with the same emphasis that also utilized interactive videotapes and live facilitation; or 3) a standard care control group. While the health promotion participants acquired some communication-negotiation skills and achieved greater self-reported behavioral change than the standard care group, the HIV prevention intervention resulted in greater self-reported and behaviorally-assessed safer sex behavior (i.e., obtaining condoms more often and manifesting fewer

medically-verified STDs at six months post-intervention [although this latter finding emerged only among women with a history of STDs and only in comparison with the health promotion controls]).

About Perinatal Transmission

Ickovics et al. (2002) followed HIV-positive women receiving perinatal care through public clinics over a six-week period (three weeks prior to delivery and three weeks after) and found an average of 50% adherence to prescribed doses of zidovudine (AZT or Retrovir®) during the prenatal period ($n = 53$), dropping off to 34.1% during the postnatal period ($n = 34$) when measured through the use of medical event monitoring system (MEMS) caps. The authors recommend that clinicians work to increase adherence to AZT both during pregnancy (to reduce the possibility of perinatal HIV transmission) as well as after delivery, when antiretrovirals are continued for the mother's own care.

In a related study, Demas et al. (2002) interviewed 87 inner-city women living with HIV at two to six weeks postpartum and also drew plasma samples from 45 of their newborns. They found that asymptomatic mothers were less adherent to the recommended neonatal AZT prophylactic regimen during the preceding week, as reflected in lower plasma levels of AZT in their newborns. Better adherence, indicated by higher AZT plasma levels, was associated with mothers' own adherence to AZT during pregnancy, suggesting the continuing need to assess and support a woman's adherence

to her own antiretrovirals to promote her maintaining the recommended neonatal AZT prophylactic regimen.

With regard to mothers' self-care, Murphy, Greenwell, and Hoffman (2002) evaluated antiretroviral adherence among 46 women living with symptomatic HIV disease or AIDS and caring for a young, HIV-negative child and discovered poor adherence (approximately 50%) over the one-month study period. Factors associated with nonadherence included perceived stress, alcohol use that did not rise to the level of "problem drinking," having a partner (to care for) within the preceding six months and having a "younger" youngest child, having little confidence regarding one's ability to stick with treatment, and not expecting much benefit from treatment adherence. Clinicians are encouraged to address even mild alcohol use as well as self-efficacy and outcome expectancies regarding antiretroviral use in HIV-infected women with young children to (hopefully) improve rates of adherence.

About Service Providers

Cobb and de Chabert (2002) studied the reactions of 46 HIV social service providers working in three community-based organizations to hypothetical scenarios depicting either a man or a woman engaging in multiple high-risk behaviors. They discovered that providers who perceived individuals as "more responsible" for contracting HIV reported more anger, attributed more blame, and expressed less willingness to assist those at risk for HIV than those who attributed less responsibility to people contracting HIV. Cobb and de Chabert suggest that direct service providers may require assistance in discerning their own negative perceptions of people who contract HIV and reducing blaming judgments that might affect their delivery of services.

About Men Who Have Sex with Men

Australian investigators (Van de Ven et al., 2002) conducted 15 cross-sectional surveys (average $n = 827$ for 10 surveys; 1,178 for five surveys) of gay men and found that, among the minority of men practicing unprotected anal intercourse (UAI) with ejaculation with a regular partner who was serodiscordant, most HIV-positive men as-

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Summaries appearing in *mental health AIDS* are presented to promote awareness and understanding of current and continuing research in the area of HIV and mental health. They are not intended for use as the sole basis for clinical treatment nor as a substitute for reading the original research.

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sumed the receptive position and most HIV-negative men the insertive. To a lesser extent, the same pattern of sexual positioning (and *perceived* risk management) occurred with serodiscordant casual partners. Since such patterning is not replicated when condoms are utilized, "[t]hese patterns of HIV-positive/receptive and HIV-negative/insertive suggest strategic risk reduction positionings rather than mere sexual preferences among a minority of gay men" (p. 471). [It should be noted that this practice is presently supported by *limited* epidemiological evidence and is still believed to carry "considerable" risk.]

Extending these findings, Remien, Wagner, Dolezal, and Carballo-Diéguez (2001) assessed a convenience sample of 75 HIV-serodiscordant male couples and found that UAI was more likely to occur among newer couples, younger men, Latino men, and men with fewer years of formal education. Such behavior was linked to lower perceptions of risk, *confidence* in condom-use ability, the desire for passion and spontaneity in the sexual arena, the desire for intimacy, and the desire to bring pleasure to oneself and/or one's partner. Here again, men practiced a variety of strategies (e.g., unprotected oral sex, withdrawal prior to ejaculation in the mouth or anus, UAI in which the HIV-positive man is the receptive partner) that may reflect personal beliefs about reducing transmission risk.

Turning to intervention, the authors caution that clinicians must consider the emotional needs of *both* partners on an ongoing basis. "It may be that fostering direct and open communication, facilitating problem solving, fostering intimacy and satisfaction within the relationship, and facilitating discussions of the many ways that two people in a committed relationship 'take care' of each other may contribute to risk reduction in the couples context. ... Reinforcing the variety of ways that two men can love and care for each other ... will reinforce the motivation and the ability to maintain loving, but 'safer' expressions of physical love" (pp. 45-46).

About Adolescents

Capaldi, Stoolmiller, Clark, and Owen (2002) followed 206 young men at risk for

STDs – including HIV – over a 10-year period (early adolescence to young adulthood) and found that those who initiated intercourse with female partners at a younger age tended to have a greater number of partners following initiation. More partners and a higher frequency of intercourse were associated with both lower levels of condom use (which decreased across the adolescent years) and contracting an STD. Delinquent behavior and substance use were also associated with sexual risk behavior in this sample, while parental monitoring appeared to reduce these behaviors. The authors suggest that clinicians begin to address antisocial tendencies in childhood, as this may serve to reduce sexual risk behavior in adolescence. Moreover, since parental monitoring appears to have a protective effect (in part by reducing time spent "partying" with delinquent peers), such behavior should be encouraged. Finally, "the finding that the peak years of sexual risk appear to coincide with the high school years indicates that condom availability may be particularly important in these years" (p. 403).

Turning from young men to young women, Hutchinson (2002) interviewed a diverse sample of 234 (ages 19 to 21) from urban, suburban, and rural families and found that early communication between parents and teens regarding sexual matters was associated with delay of sexual debut and consistent use of condoms (the latter associated in particular with mother-daughter communication regarding condoms). In addition, parental communication was indirectly associated with a reduced likelihood of acquiring an STD. It should be noted that fathers were found to engage in lower levels of sexual communication than mothers.

Hutchinson believes that family-based interventions should be targeted toward pre-adolescent parent-child sexual communication and that the foundation for positive and open sexual communication should be laid even earlier. To accomplish this, parents require information as well as opportunities to practice communication skills, plan age-appropriate conversations, recognize "teachable moments" that occur in everyday life, and examine their personal fears

and attitudes toward sexuality. Interventions should also include elements specifically targeted to "fathers" (i.e., biological fathers, stepfathers, male relatives, guardians, and other father figures) and their special roles and needs in communicating with teens on sexual matters. While Hutchinson encourages clinicians to help parents locate and obtain parent-, child-, and teen-oriented sexuality resources from such organizations as SIECUS (www.siecus.org) and Planned Parenthood (www.plannedparenthood.org), she notes that books, pamphlets, and videos cannot substitute for active parental involvement and should not replace "ongoing, age-appropriate, parent-child sexual communication and guidance" (p. 246).

Hutchinson's Latina respondents reported less parent-teen sexual communication than young women of other racial/ethnic backgrounds. And yet, Latinas may be quite knowledgeable about sexual matters. Dudley, O'Sullivan, and Moreau (2002) surveyed 110 urban teens (American-born and generally of Dominican or Puerto Rican background) referred for mental health services and found that *having* accurate knowledge about HIV transmission and having personal contact with someone living with HIV were associated, in this sample, with *higher* rates of sexual risk behavior. The authors suggest that this disparity between knowledge about or familiarity with HIV and personal decision-making be addressed by interventions that help teens referred for mental health services to integrate abstract understandings about HIV into their own sexual decision-making and to prioritize protection strategies within a range of competing life concerns (e.g., family dysfunction, drugs, violence, academic failure).

Readers of *mental health AIDS* are, by now, well-acquainted with studies involving 522 low-income, sexually-active, African-American female adolescents in Birmingham, Alabama. Here are two recent reports:

o Crosby et al. (2001) found that 15.9% reported voluntary sex with a casual partner over a six-month recall period, correlated with "acquiescing to unwanted sex, living with a non-parent relative, never being pregnant, rejecting messages about the

Tool Box

Resources

Books & Articles:

Cole, G. (2002). *Infecting the treatment: Being an HIV-positive analyst*. Hillsdale, NJ: Analytic Press.

This book "[e]xamines the impact of the author's disclosure of his HIV seropositivity on his analytic sense of self and on his clinical work with patients."

Conviser, R., & Pounds, M.B. (Eds.) (2002). Evaluating the contribution of ancillary services in improving access to primary care in the United States under the Ryan White CARE Act. *AIDS Care*, 14(Suppl. 1), S1-S136.

Eight studies are featured in an August 2002 special supplement to the journal *AIDS Care*. "Taken as a whole, [these] studies suggest that receipt of ancillary services such as case management, mental health and substance abuse treatment, transportation, and housing assistance is associated with primary care entry and retention among CARE Act clients" (p. S119).

Fortenberry, J.D. (2002). Clinic-based service programs for increasing responsible sexual behavior. *Journal of Sex Research*, 39(1), 63-66.

Fortenberry explores the effectiveness of clinic-based programs designed to increase responsible sexual behavior.

Kalichman, S.C., Weinhardt, L., Benotsch, E., & Cherry, C. (2002). Closing the digital divide in HIV/AIDS care: Development of a theory-based intervention to increase Internet use. *AIDS Care*, 14(4), 523-537.

value of condoms for disease prevention, low parental supervision, and dissatisfaction with body image" (p. 55). The authors suggest that individual and small group interventions can be utilized with African-American adolescent females to: 1) address dissatisfaction with body image by emphasizing positive and/or non-physical attributes; 2) stressing teen control over potential HIV/STD infection; 3) teaching/rehearsing refusal skills while pointing out that acquiescing to unwanted sex will not necessarily result in a steady relationship; and 4) addressing (with parents or guardians) the protective value of social monitoring.

o Liao et al. (2002) found that the 5.4% of these young women who were laboratory-confirmed-positive for marijuana use were

The authors pilot tested a workshop-style intervention designed to build information technology skills in persons living with HIV who have never used the Internet.

Kresina, T.F., Flexner, C.W., Sinclair, J., Correia, M.A., Stapleton, J.T., Adeniyi-Jones, S., Cargill, V., & Cheever, L.W. (2002). Alcohol use and HIV pharmacotherapy. *AIDS Research & Human Retroviruses*, 18(11), 757-770.

The authors describe the impact of alcohol consumption by people living with HIV on adherence to and effectiveness of antiretrovirals, closing with a number of research questions in this emerging field.

Logsdon-Conradsen, S. (2002). Using mindfulness meditation to promote holistic health in individuals with HIV/AIDS. *Cognitive & Behavioral Practice*, 9(1), 67-71.

Logsdon-Conradsen offers a rationale for incorporating mindfulness meditation as a stress management technique into treatment programs for people living with HIV.

Nichols, J.E., Speer, D.C., Watson, B.J., Watson, M.R., Vergon, T.L., Vallee, C.M., & Meah, J.M. (2002). *Aging with HIV: Psychological, social, and health issues*. San Diego: Academic Press. This volume presents qualitative, quantitative, and comparative research involving older adults living with HIV.

Rhodes, T., & Cusick, L. (2002). Accounting for unprotected sex: Stories of agency and acceptability. *Social Science & Medicine*, 55(2), 211-226.

"[T]his paper explores how ... accounts of unprotected sex can illuminate the way in which

also more likely to be laboratory-confirmed-positive for chlamydia or gonorrhea, findings linked to inconsistent condom use over the preceding six-month period and greater likelihood of no condom use in the preceding 30 days. Liao and colleagues suggest that prevention programs directed to female teens should incorporate a component highlighting the relationship between marijuana use and STD acquisition/transmission.

In neighboring Mississippi, St. Lawrence, Crosby, Brasfield, and O'Bannon (2002) conducted a randomized controlled trial comparing three interventions developed to increase the frequency of safer sexual practices among substance-dependent teens. In this study, 161 adolescents enrolled in residential drug treatment programs received

the self is presented within the context of situated norms of risk acceptability and moral responsibility" (p. 211).

Riekert, K.A., & Drotar, D. (2002). The Beliefs About Medication Scale: Development, reliability, and validity. *Journal of Clinical Psychology in Medical Settings*, 9(2), 177-184.

Riekert and Drotar developed the theory-based Beliefs About Medication Scale (BAMS) for use in assessing psychological barriers to oral medication adherence among chronically-ill adolescents.

Semaan, S., & Sogolow, E. (Eds.). (2002). Do behavioral HIV interventions work? A review and meta-analysis. *Journal of Acquired Immune Deficiency Syndromes*, 30(Suppl. 1), S1-S136.

This supplement contains articles generated by the CDC HIV/AIDS Prevention Research Synthesis project, the most extensive research review carried out to date on the effectiveness of behavioral and social interventions to reduce HIV risk. Meta-analyses involving 72 U.S.-based studies reported or published through June 1998 in four risk behavior areas – drug-related (33 studies), heterosexual youth (16 studies), heterosexual adult (14 studies), and same-sex (9 studies) – suggest that "interventions to reduce sexual risk behaviors are effective and should be implemented on a much wider scale than at present, [although] the interventions that were reviewed generally produced only moderate effects" (p. S6).

Treisman, G.J., & Kaplin, A.I. (2002). Neurologic and psychiatric complications of antiretroviral agents. *AIDS*, 16(9), 1201-1215.

Treisman and Kaplin review the proposed etiol-

12 sessions of either: 1) health information only, 2) health information and skills-focused training in safer sex, or 3) health information and skills-focused training plus a "risk-sensitization manipulation." "The findings indicate that interventions based on information plus behavioral skill training produced improvements in knowledge, attitudes, skill acquisition, abstinence, and safer sex for high-risk adolescents enrolled in residential drug treatment programs. ... These findings indicate that (a) increases in abstinence and safer sex practices can be achieved even with very-high-risk adolescents and (b) use of the personalized visual imagery in the risk-sensitization manipulation (when combined with skills training) extended the duration of positive effects on several critical variables through the following year" (pp. 1018-1019).

ogy, diagnosis, and management of neurologic and psychiatric symptoms and disorders related to HIV infection and its treatment with antiretrovirals.

Internet Resources:

Jani, A.A. (Ed.). (2002, June). *Adherence to HIV treatment regimens: Recommendations for best practices* [Document]. Washington, DC: American Public Health Association. Retrieved August 5, 2002, from the World Wide Web: <http://www.apha.org/ppp/hiv/>

The Health Resources and Services Administration (HRSA), in collaboration with the American Public Health Association (APHA), has produced "a comprehensive Web-based document on the topic of treatment adherence to antiretroviral therapies with embedded hyperlinks. ... [T]his living document and its accompanying Web site [will] serve to summarize the relevant adherence literature and provide continuous updates from incoming scientific conference data and published research."

HIV InSite, based at the University of California San Francisco, has compiled a comprehensive, fully-referenced, interactive online "Database of Antiretroviral Drug Interactions," located at: http://hivinsite.ucsf.edu/InSite.jsp?page=ar_00_02

HRSA has launched the "CARE Act Technical Information & Education" (CATIE) Web site to help Ryan White grantees and other providers "plan and deliver high-quality HIV/AIDS services." CATIE is located at: <http://hab.hrsa.gov/CATIE/>

--Compiled by Abraham Feingold, Psy.D.

About Substance Users

Drawing on a sample of 261 needle exchange program participants, Canadian researchers (Bélanger, Godin, Alary, & Benard, 2002) found condom use intentions to be based on personal convictions (developed over a long period of time) rather than social norms (immediate pressures to conform) with both regular ($n = 139$) and casual ($n = 157$) partners. Self-perceived condom use skills also contributed to intentionality with both regular and casual partners (although more strongly with the former than the latter), while the cognitive portion of attitude (calm consideration) did so with casual partners alone. "On a practical level," assert Bélanger and colleagues, "it would be desirable for interventions promoting condom use among IDUs participating in

needle-exchange programs to address the personal normative beliefs relating to the adoption of this behavior as well as the development of the competencies needed to overcome obstacles that could prevent its adoption. It would be equally important that such interventions stress the advantages related to condom use, but especially in the context of sexual relations with casual partners" (p. 1060).

Montgomery et al. (2002) studied social networks and risk behaviors among 193 largely homeless, young IDUs in Los Angeles as well as 127 of their social network members referred into the study. When compared to the young men, the young women appeared to be more entrenched in multiple IDU networks and reported risk through their having sex as well as injecting with partners at higher behavioral risk for contracting HIV than themselves. Importantly, these young women also reported more protective behaviors (e.g., participating in needle exchange, carrying clean needles) than did the young men in this study. The authors urge clinicians to support risk-reduction behaviors exhibited by female IDUs not only for the purpose of potentially reducing HIV risk for these young women, but for their social networks as well.

HIV Assessment News

HIV Counseling & Testing

The Centers for Disease Control and Prevention (CDC, 2002) surveyed and HIV tested 920 black men who have sex with men (MSM) between the ages of 15 and 22 in six U.S. cities between 1994 and 1998 and found that 150 of these young men (16%) tested positive for HIV; *139 (93%) of those testing positive stated that they were not aware of their HIV-positive status until informed through this study.*

Over the six-month period preceding their participation in the survey, 37% of the 920 men in this study reported UAI; the corresponding figure for those with unrecognized HIV infection was 53%. In this latter group, 52% reported one or more of the following reasons for not using condoms: "knowing" they were HIV-negative (24%), "knowing" their partner was HIV-negative (20%), or thinking their partners presented low risk for

infection (35%); 43% also reported that condoms were unavailable at the time of intercourse. With regard to HIV testing, 64% of the 920 men in this study had been tested at least once in the past; 16% of the 536 testing negative prior to the study tested positive at the time of the study. Among those who had not submitted to testing previously, 45% thought their risk of HIV infection was low, 41% were fearful of learning their test results, and 21% were fearful of needles; 42% of these 322 men were found to be HIV-positive at the time of the study.

To facilitate greater risk awareness and to increase HIV testing among young, black MSM, (as suggested in an "Editorial Note" accompanying this report), clinicians should:

- o Routinely assess HIV risk, attempt to increase personal risk perceptions in concert with behavior, and encourage HIV testing at least once yearly for MSM at high risk;
- o Address concerns about a positive result by conveying the utility of early diagnosis and entry into care (if needed);
- o Promote the use of finger-stick, urine-based, or oral fluid HIV testing to reduce fears of testing and "needles";
- o Conduct testing along with in-depth assessment of personal risk, clarification of risk perceptions, and planning with regard to steps that may be taken to reduce risk (e.g., consistent condom use, even with partners who had tested negative for HIV in the past; managing the influences of drugs, alcohol, and sexual partners on condom use); and
- o Identify and address emotional responses to situations involving high HIV risk.

Colfax et al. (2002) assessed risk preceding as well as one month and quarterly over a 12-month period following the receipt of HIV-positive test results among 66 MSM seroconverters. Colfax and colleagues found that, prior to receiving the news of their having recently contracted HIV, more than half of these men reported sexual behaviors that may have led to the transmission of HIV during the highly infectious seroconversion period. While self-reported risk behavior declined sharply in many of these men after learning that they were HIV-positive, those who continued to engage in

high-risk behavior soon after learning of their HIV-positive status were more likely to continue these behaviors throughout the follow-up period. To reduce the risk of HIV transmission during seroconversion, according to Colfax and colleagues, clinicians should identify MSM who may be newly HIV-infected as quickly as possible and initiate risk-reduction counseling for both HIV acquisition and transmission during the pre-test counseling session. For those who are identified as HIV-positive, clinicians can build on the usual reduction in risk behavior associated with the receipt of a positive test result with risk-reduction interventions during post-test counseling and should follow-up for at least one year subsequent to notification of the HIV-positive test result, particularly if there is evidence that high-risk sexual behavior is continuing.

Psychiatric Assessment

Barroso et al. (2002) followed 96 gay men living with HIV longitudinally for up to seven and one-half years and found that HIV-related fatigue and depression could each be used to predict the other and that a history of either fatigue or depression predicted a re-exacerbation of these conditions. The only additional predictor of fatigue was the individual having progressed to CDC clinical status C (i.e., having AIDS or advanced HIV disease). Based on these findings, the authors suggest that clinicians assess for depression in those who present with HIV-related fatigue, since depression can be treated aggressively and successfully and a lessening of depressive symptoms may reduce co-occurring fatigue.

Zule, Flannery, Wechsberg, and Lam (2002) studied alcohol use by 635 out-of-treatment African-American women who abused crack cocaine (272 "light," 216 "moderate," and 147 "heavy" drinkers) and found heavy drinking to be associated with greater use of crack cocaine and greater likelihood of engaging in sexual risk behavior. Heavy drinkers were also more likely to report a history of childhood trauma and greater current psychological distress. Zule and colleagues recommend screening crack-abusing women for heavy drinking (defined by this group as \geq five drinks per occasion on \geq 30 of the preceding 90 days) and offering

additional assessment and referral for psychological intervention for women who screen positive for heavy drinking.

HIV Treatment News

Medical Care

In a British cohort of 96 HIV-positive men with hemophilia who were coinfecting with hepatitis C virus (HCV), Herrero-Martinez et al. (2002) found that a single HCV viral load measurement, taken approximately four years following the estimated date of HIV seroconversion, was predictive of progression to AIDS as well as death from *all* causes over a period of at least 15 years if that initial measurement was between 5.90 and 6.86 \log_{10} copies/mL. The implication is that sustained HCV replication following HIV seroconversion appears to increase the risk of death. Herrero-Martinez and colleagues suggest that early initiation of treatment for HCV infection may be appropriate for people who are HCV-HIV-coinfecting.

Conversely, based on a prospective study involving 1,955 people receiving HIV medical care, 45% of whom also had HCV, Sulkowski, Moore, Mehta, Chaisson, and Thomas (2002) conclude that HCV does *not* increase the risk of death among people living with HIV nor hasten progression to AIDS. Fortunately, Sulkowski and colleagues also report that HCV does not present a barrier to the initiation of highly active antiretroviral therapy (HAART).

Two recent meta-analytic compilations, one involving 13 published articles (Gandhi et al., 2002) and the other 14 published articles and one conference abstract (Napravnik, Poole, Thomas, & Eron, 2002) conclude that women, as a group, tend to have lower viral loads than do men at similar stages of infection. This raises the question of whether a lower viral load threshold should be utilized to trigger the initiation of therapy in antiretroviral-naïve women.

On the question of trigger points, increasing awareness of the activity and toxicity of current antiretrovirals has prompted the International AIDS Society-USA Panel (Yeni et al., 2002) to recommend that treatment be delayed until CD4 cell counts fall to between 200 and 350 cells/mm³.

Investigators involved in a prospective, multisite, observational study (Palella, Chmiel, Moorman, Holmberg, & the HIV Outpatient Study Investigators, 2002) analyzed data on opportunistic infections and death for 1,769 study participants whose CD4 cell counts had ever dipped below 100 cells/mm³; HAART-related data from 1,022 HAART recipients whose CD4 cell counts were ever < 500 cells/mm³ were also analyzed. Rates of opportunistic infection and death were low in this cohort, reflecting the impact of HAART. A durable response to HAART (> 12 months) was associated with having been antiretroviral-naïve before initiating HAART, achieving a rapid response to HAART, and having an initial regimen that contained one protease inhibitor (PI; particularly indinavir [Crixivan®] or nelfinavir [Viracept™]). Importantly, findings suggest that "patients clearly derive progressively less benefit from successive and increasingly more complex, more expensive, and possibly more difficult to tolerate HAART regimens" (p. 1625).

For this reason (among others), the selection of an initial HAART regimen may be critical to durable suppression of the virus for many people living with HIV. Drug-resistant HIV represents one potential challenge to durable HIV suppression. This observation begs the question: What is the prevalence of drug-resistant HIV?

Little et al. (2002) measured the prevalence of drug-resistant HIV among 202 individuals who presented for treatment with primary HIV infection over a five-year period (1995 to 2000) in 10 North American cities and found the frequency of resistance to one or more classes of antiretrovirals, based on genotypic analysis, to have increased (8.0% for those diagnosed between 1995 and 1998; 22.7% for those diagnosed between 1999 and 2000); the frequency of multiclass drug resistance was also found to have increased (3.8% to 10.2%). Among those with drug-resistant virus, the time until viral suppression following the initiation of antiretrovirals increased and the time to virologic failure decreased. While routine, baseline resistance testing is not recommended at present, the clinical value of such testing depends upon the prevalence of

drug-resistant strains of HIV among those recently infected. Based on these findings, Little and colleagues recommend testing for transmitted drug resistance among those who are newly infected to assist in the selection of first-line antiretroviral regimens.

Finally, Kilbourne et al. (2002) found that 46% of 881, primarily male, veterans receiving HIV medical care were experiencing significant depressive symptoms and that the increasing severity of these symptoms was associated with greater frequency and "bother" of symptoms linked to HIV disease (e.g., fatigue, sleep trouble, pain). Importantly, these investigators found such HIV-induced symptoms to be associated with illness severity and mortality, *regardless* of the severity of depressive symptoms. They warn providers not to assume that medical complaints are merely somatic manifestations of depression and to assess and appropriately address physical symptoms in people living with HIV who are experiencing concurrent depressive symptoms.

Psychiatric/Psychological Psychosocial/Spiritual Care Neuropsychiatric Impairment

In Canada, Bassel, Rourke, Halman, and Smith (2002) evaluated 36 HIV-positive adults – primarily white, gay, non-substance-abusing men – and found working memory performance (i.e., the ability to temporarily store and manipulate information) to be the best neuropsychological predictor of self-reported cognitive and memory complaints (once depressive symptoms had been taken into consideration). The authors suggest that, while standard neuropsychological tests are often used to detect HIV-related brain dysfunction, working memory performance may give clinicians a reasonable idea of how clients are functioning in their everyday environment.

Investigators in Italy (Starace et al., 2002) assessed HIV-related cognitive and affective disorders among 395 antiretroviral-naïve adults living with HIV and found that 17.9% of these individuals demonstrated cognitive impairment and 15.5% displayed "prominent" depressive symptomatology, though the latter decreased among those who began taking HAART. The authors call

Building Block

Highlights from the 14th International AIDS Conference

The 14th International AIDS Conference, held in Barcelona, Spain from July 7-12, was attended by a record 17,000 delegates from around the world. Highlights, culled from a variety of news sources, are included below:

o While HIV incidence in the U.S. has remained unchanged since 1998, the epidemic is disproportionately affecting African Americans in general and African-American women and African-American men who have sex with men (MSM) in particular, based on data from 25 states (Maugh, *Los Angeles Times*, 7/8). New cases involving heterosexual transmission increased by 10% between 1998 and 2000 (*Associated Press/Richmond Times-Dispatch*, 7/8).

o A six U.S. city study revealed that 77% of young MSM found to be HIV-positive (90% of blacks, 70% of Hispanics, and 60% of whites) were unaware of their status (Altman, *New York Times*, 7/8) and more than half had not been using condoms (Donnelly, *Boston Globe*, 7/8).

o Two studies suggest the benefits of the fusion inhibitor enfuvirtide or T-20 (a twice-daily injection) for those with drug-resistant strains of HIV. Fusion inhibitors are a new class of antiretrovirals designed to prevent HIV from invading cells (Fuhmans, *Wall Street Journal*, 7/8).

o HIV incidence among newborns in the U.S. has declined by 80% between 1991 and 2000,

for early identification of people infected with HIV and the initiation of treatment strategies that will enhance not only survival, but also mental health.

Medication Interactions

Penzak et al. (2002) studied the pharmacokinetic impact of ritonavir (Norvir™) on a single, 10 mg. dose of the atypical antipsychotic olanzapine (Zyprexa®) in 14 healthy volunteers and found that ritonavir reduced systemic exposure of olanzapine in these individuals. The authors warn that "some patients receiving these drugs in combination may experience reduced therapeutic benefits from olanzapine. Patients receiving olanzapine and ritonavir concurrently should be closely monitored for therapeutic response to olanzapine. Patients stabilized

attributed in increased HIV counseling and voluntary testing of pregnant women as well as the use of antiretrovirals (Socolovsky, *Associated Press/Hartford Courant*, 7/9).

o According to Robert Siliciano from Johns Hopkins, the body's latent reservoir of HIV guarantees "lifetime persistence of the virus and makes the disease intrinsically incurable with antiretroviral therapy alone," even among those with undetectable viral loads; a normal life expectancy may, however, be possible with the assistance of antiretrovirals (Tasker, *Miami Herald*, 7/9).

o Two studies indicate that highly active antiretroviral therapy can be "safely" delayed when CD4 cell counts are > 200 cells/mm³ (Brown, *Washington Post*, 7/10).

o A large Italian study provides the "strongest evidence so far for a causal link" between the use of protease inhibitors and an increase in the risk of developing heart disease (Brown, *Washington Post*, 7/11).

o Bruce Walker presented a case study involving an HIV-positive gay man from Boston whose immune system was successfully suppressing his HIV infection when he had unprotected sex, became infected with another strain of HIV, and began to decline clinically (Schoofs, *Wall Street Journal*, 7/11). According to Walker, "[t]he public health implication of this is that it is possible to become infected with a second strain of HIV, even a very closely related one" (Garrett, *Newsday*, 7/11).

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on a regimen containing olanzapine and ritonavir, who have their ritonavir discontinued, should be monitored closely for new side effects potentially arising from increased olanzapine exposure" (p. 370).

Access to Care

Evidence indicating the importance of access to mental health treatment is provided by Cook et al. (2002), who assessed 1,668 women living with HIV across six sites on a twice-yearly basis between 1996 and 1998. High levels of depressive symptoms, as well as poor mental health quality of life, were found among these women.

Importantly, women with high levels of depressive symptoms were significantly less likely to be on HAART regimens,

as were women with poor mental health quality of life. On the other hand, women who had recently received mental health services were significantly more likely to be on HAART regimens. ... These findings suggest that efforts to enhance women's access to psychological treatment may increase their use of the latest HIV therapies. (p. 407-408)

Adherence to Treatment

Cohen et al. (2002) followed 55 adults taking self-administered, twice-daily, subcutaneous injections of enfuvirtide (T-20, Fuzion™), a new antiretroviral that inhibits the fusion of HIV with target cell membranes, over a 48-week period. According to the authors, study participants did not report substantial changes in their activities of daily living while taking T-20 in comparison with taking their other (i.e., oral) antiretrovirals. If medically indicated, 98% of the 41 study participants who completed 48 weeks of treatment would choose to continue taking T-20, citing perceived effectiveness and an absence of side effects. Cohen and colleagues conclude that this route of administration does not appear to be a barrier to medication adherence.

Investigators in Ireland (Clarke, Keenan, Ryan, Barry, & Mulcahy, 2002) followed a cohort of 39 IDUs who received HAART in conjunction with their daily methadone maintenance therapy over a 48-week period and found that 51% of antiretroviral-experienced individuals and 65% of antiretroviral-naïve individuals enrolled in this program were able to achieve maximum viral suppression through this form of directly observed therapy (DOT). Clarke and colleagues conclude that DOT may be a viable option for providing HAART to IDUs, particularly when offered in conjunction with their methadone maintenance therapy.

Drawing data from four Florida urban public HIV clinics, Lieb et al. (2002) compared 120 people who died from HIV/AIDS to 240 randomly-selected controls and found the following factors associated with death: homelessness, being insured through Medicaid, having documented difficulty with medication adherence, use of injecting drugs, non-specific liver failure, disruptions

in the use of HAART secondary to side effects, and not receiving HAART. Since several of these factors are modifiable, Lieb and colleagues advise clinicians to pay particular attention to clients who are homeless, those having problems with medication adherence, and those with liver disease.

French investigators (Lewden et al., 2002) found, when following up over a median of 27 months on 1,155 HIV-infected adult who had begun a PI-containing antiretroviral regimen, that a low level of formal education, among a variety of clinical and biological factors, was associated with an increased risk of death. "School education level is probably a proxy for psychological, behavioral, or social characteristics," suggest the authors, who observe that "[t]he higher risk of death in patients with a low level of education needs to be further evaluated to identify potential reasons (e.g., diffi-

culty in treatment adherence, social problems, or high-risk behavior)" (p. 713).

One answer may come from Goldman and Smith (2002), who related self-reported health status and educational level for 2,267 people living with HIV and discovered that those who were better-educated were more likely to understand and adhere to complex antiretroviral regimens than those with less formal education. In fact, in this study, educational level was a better predictor of health status than gender, race, age, or income. When working with less-educated clients, clinicians should provide clear medication instructions and information on the consequences of nonadherence, as well as more frequent follow-up.

Golin, Isasi, Bontempi, and Eng (2002) conducted focus groups with a convenience sample of 24 people receiving HIV clinic

Tool Box

Assess & Address Adverse Aspects of AIDS-Associated Social Support

Turner-Cobb et al. (2002) studied 78 men and 59 women living with HIV and found better psychological adjustment to be associated with experiencing greater satisfaction with HIV-related social support, having a more secure attachment style, and using less behavioral disengagement when coping with chronic illness. Turner-Cobb and colleagues suggest that "clinical interventions that increase secure attachments to others and increase [clients'] ability to deal directly with problems related to ... illness are likely to improve psychological adjustment and might positively influence disease progression and health outcomes" (p. 350).

This study, like so many, focuses on the "up" side of social interaction. And yet, what about times when friends or family members are unresponsive or even hurtful? Ciambra (2002) interviewed a largely white sample of 37 women, most living with early stage HIV disease and receiving coordinated HIV medical and social services, and found that these well-connected and relatively healthy women had at least one individual – usually a family member – upon whom they relied for emotional support. Nevertheless, Ciambra indicated concern that positive support could erode over the disease course, as three in four women who experienced "negative support" had been living with HIV for seven or more years. "Family members who were initially supportive might

be unwilling or unable to continue to provide emotional support. This is an especially troubling finding given that the vast majority of these women are asymptomatic and have not called on their networks for more intensive caregiving tasks" (p. 893).

The "Down" Side of Social Support

While clinicians gather information on a client's social network in an effort to assess the breadth and depth of support potentially available to that client, far fewer may be inquiring about *upsetting interactions* with members of a client's social system.

Siegel, Raveis, and Karus (1997) studied a racially and ethnically diverse sample of 144 gay and bisexual men going through different stages of HIV disease and found that "either a small range of perceived availability of illness-related support or the experience of a wide range of negative supports is sufficient to predict relatively high levels of depression. Conversely, lower levels of depression are predicted only when the individual perceives a wide range of illness-related supports and experiences little or no negative interactions with network members" (p. 411). They conclude that "the occurrence of negative social interactions can offset the beneficial impact of supportive interactions on psychological well-being" (p. 416).

Ingram, Jones, Fass, Neidig, and Song (1999) developed an "HIV version" of the *Unsupportive Social Interactions Inventory (USII)*, based on information gathered from a diverse sample of

services in North Carolina and identified the following barriers to antiretroviral adherence: 1) a recognition of the lifesaving properties of antiretrovirals coupled with a fear of taking medications publicly and risking HIV status exposure, the result being missed doses, particularly "middle of the day" doses; 2) the more general difficulty of integrating medication-taking into daily routines; and 3) a desire for ongoing dialogue regarding treatment and privacy concerns with a variety of health care workers. Golin and colleagues encourage clinicians to focus on strategies specific to addressing midday dosing concerns, make inconspicuous adherence assistance technology available to clients, and develop multidimensional adherence interventions involving health educators, case managers, nurses, and pharmacists, as well medical and nursing providers that identify external factors interfering with medication adherence and

result in feasible and flexible responses to these barriers.

Serostatus Disclosure

Derlega, Winstead, Greene, Serovich, and Elwood (2002) asked 145 men (mostly gay and bisexual) and women (mostly heterosexual) living with HIV to recall their first learning about their HIV-positive status and factors related to disclosure decision-making, as well as actual disclosure. They found that perceived HIV-related stigma (i.e., how much people living with HIV believe that the general public stigmatizes HIV-positive people) was associated with a variety of reasons individuals would *not* disclose to a friend or parent (e.g., self-blame, communication difficulties, fear of rejection, the desire to protect the other); perceived stigma was not associated with a variety of reasons individuals *would* disclose to a parent, friend, or intimate partner (e.g., catharsis,

duty to inform/educate, to test the other's reaction, a close/supportive relationship with the other, similarity). When it came to actual disclosure, perceived stigma was associated with not disclosing to a parent, but had no association to disclosure to an intimate partner or friend. Since perceived HIV-related stigma appears to inhibit disclosure of HIV status to parents, clinicians should consider exploring the impact of perceived stigma on this decision-making process.

Murphy, Roberts, and Hoffman (2002) interviewed 47 mothers living with HIV who disclosed their serostatus to their young children. While a majority of these mothers explicitly forbid their children sharing this information with others, about a quarter of them identified "safe people" with whom a child *could* discuss the mother's status (e.g., therapist, health care provider, family member). Most children respected mother's

271 people living with HIV. Through this analysis, the authors identified four types of negative responses experienced by people living with HIV in their dealings with others: disconnecting, insensitivity, blaming, and forced optimism. Utilizing this instrument, Ingram and colleagues found that those who reported more unsupportive social interactions related to their HIV status also reported that they were more depressed.

Since studies (Ingram et al., 1999; Siegel et al., 1997) suggest that positive social support and negative social interactions make *independent* contributions to the well-being of people living with HIV, it seems reasonable that *each* should be assessed by clinicians. By not assessing the negative side of a client's interactions within his or her social network, clinicians may not be able to fully contextualize a client's depression. And so, "in addition to questions about positive social support, it is critical for mental health professionals to ask specifically about any unhelpful, unsupportive or upsetting responses that the person with HIV has received from others" (Ingram et al., 1999, p. 327).

More recently, in a sample of 116, primarily female, African Americans living with HIV, Song and Ingram (2002) found that, while greater perceived availability of positive social support was associated with less disturbance in mood, a higher level of unsupportive responses (e.g., insensitivity, blaming, or disconnecting) expressed by others about living with HIV was

associated with a higher level of depressed and anxious mood. Unsatisfying responses were, in turn, associated with the use of denial/disengagement as a coping mechanism; use of these defenses was also associated with greater mood disturbance. When working with people living with HIV, Song and Ingram encourage clinicians to: 1) assess "the availability of positive forms of social support as a way of identifying resources for coping and ... unsupportive social interactions ... as potential sources of stress" (p. 81); 2) educate family and friends on how to provide positive social support while avoiding inadvertent unsupportive responses, and 3) teach assertiveness and stress management techniques to handle unsupportive interactions that do occur.

Lessons Applied to the Larger System

These same lessons apply to work with family and friends of people living with (and dying from) HIV disease. Ingram, Jones, and Smith (2001) surveyed 90 individuals – primarily well-educated white gay men and lesbians – in two cities who experienced two or more AIDS-related losses and found that unsupportive social interactions concerning the experience of loss (e.g., distancing, bumbling) contributed to the level of depressive symptoms among the bereaved, over and above their present grief. Moreover, unsupportive reactions appeared to contribute to avoidant coping behavior (e.g., social withdrawal, substance use) on the part of the bereaved, further increasing depressive symptoms. As in the preceding study, these authors suggest that clinicians explore both supportive

and unsupportive social interactions connected to AIDS-related bereavement.

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wishes; only four disclosed after being explicitly warned to refrain from disclosure. Nevertheless, the authors recognize the stress involved in maintaining such secrecy and encourage clinicians to assist mothers in working with their children to develop a list of "confidants" with whom their children might talk freely about the mother's positive serostatus, since support for children in these situations is essential.

Stress Management

In a nine-year study involving 96 HIV-positive gay men who were asymptomatic and antiretroviral-naïve at baseline, Leserman et al. (2002) found disease progression to be associated with more stressful life events, with less social support, and with higher blood levels of serum cortisol (a stress hormone). The authors suggest that pharmacological interventions as well as cognitive-behavioral stress management may influence how these factors affect people living with HIV and, by extension, influence the progression of HIV disease.

While not a study of disease progression, Cruess et al. (2002) did assign 62 well-educated gay men living with HIV to a 10-week, multimodal cognitive-behavioral stress management intervention – instruction in cognitive restructuring, adaptive coping strategies, assertiveness, anger management, utilization of social support, and relaxation training – and 38 of their peers to a no-treatment control condition and found that those who received the intervention demonstrated reductions in mood disturbance and depressive symptoms as well as more active coping behaviors, perceptions of greater social support and self-efficacy, and a reduction in dysfunctional attitudes when compared to those not receiving treatment. Cruess and colleagues suggest that a multimodal, group-based cognitive-behavioral intervention (i.e., one that teaches several cognitive and behavioral techniques to manage stress and improve mood, health, and quality of life) may be of particular benefit to people living with HIV, offering a variety of stress management skills that can effect changes in psychological adjustment for those coping with this chronic condition.

Gray and Cason (2002) surveyed 80 wo-

men living with HIV in 10 states and found that 36% of these women had achieved "mastery over stress" (i.e., had used resources and coping strategies to successfully manage life stressors). Such mastery was positively correlated with social support, a spiritual perspective, and lower severity of illness and negatively correlated with interpersonal conflict. The authors urge clinicians to assess a female client's social support and spiritual perspective and highlight the benefits of these resources. They also suggest that stress management training may be of help in addressing a client's interpersonal conflicts.

More specific points made by Gray and Cason on working with a female client include the following:

- o Look for and acknowledge her strengths and successes;
- o Recognize and highlight her ability to handle multiple challenges and responsibilities;
- o Remind her of her earlier successes and accomplishments;
- o Emphasize the significance of even small steps taken to address HIV and its effect on self and family;
- o Gauge the size and depth of her support network;
- o Help family members and significant others to feel welcome in your professional setting;
- o Ask her whom she wishes to include in meetings about her care;
- o Make referrals to community resources that target women as well as women's support groups. If these resources are not available in your community, create opportunities for her to talk with other HIV-positive women by scheduling their appointments for the same part of the day. With their permission, you might also introduce them to one another;
- o Assess her spiritual perspective and how she is expressing it (e.g., prayer, attending religious services, reading spiritually-related books and pamphlets);
- o Explicitly acknowledge that some women living with HIV find comfort and strength through spirituality; and
- o Listen for her most pressing stressors and take steps to minimize them. While

referrals for supplemental income, food, or housing may be critical, "[m]ore important than even referrals may be the time and respect you give her by listening to her story and validating her strengths" (p. 55).

Care for Caregivers

Chalfin, Grus, and Tomaszeski (2002) conducted a preliminary investigation involving 35 female caretakers of HIV-infected children aged five and under, including foster mothers, family members, and the mothers themselves, who were also living with HIV. They found that, among these three groups of caregivers, biological mothers (who tended to be younger) experienced higher levels of stress, anxiety, and depression within the parenting role, even while relatively healthy in terms of their HIV disease. Chalfin and colleagues urge clinicians to remain alert to changes in emotional status in caregivers of young children living with HIV – particularly young, biological mothers with limited family support and financial resources – and work to promote effective coping.

Satterfield, Folkman, and Acree (2002) studied 30 bereaved gay male AIDS caregivers and found a strong relationship between daily stress and depression in the early phase of bereavement, while hopelessness in combination with daily stress was associated with depressive symptoms later in the first year of bereavement. The authors encourage clinicians to focus on the management of "typical postbereavement hassles" as an early AIDS-related bereavement intervention, following up with more traditional cognitive-behavioral interventions that work to create a more hopeful explanatory style and more adaptive coping behaviors later in the bereavement process.

Coping, Social Support, & Quality of Life

Leslie, Stein, and Rotheram-Borus (2002) interviewed 295, mostly female, parents living with HIV and found that emotional distress and conflict with their teen children were associated with a more passive coping style, while perceived social support was associated with a more active coping style. Whereas passive coping was associated with less health care satisfaction, active coping was associated with greater health

care satisfaction as well as less substance abuse. Mothers reported more distress regarding HIV-related physical symptoms (directly influenced by emotional distress), as well as greater satisfaction with health care, than fathers. The authors suggest that stress-reduction interventions, as well as those that promote active coping, in parents living with HIV may result in improved health-related outcomes.

Analyzing data from 513 people living with HIV, Gill et al. (2002) noted several findings of interest to clinicians: 1) higher CD4 cell counts were associated with a higher health-related quality of life; 2) undetectable viral loads were associated with improved physical functioning; and 3) use of HAART was associated with declines in physical functioning linked to adverse side effects of the medications. The authors conclude that "[e]fforts to improve patients' CD4 [cell] counts are likely to also improve [health-related quality of life]. Lowering viral loads may improve physical functioning, but only if [viral loads] are suppressed to undetectable levels. In this analysis, HAART had negative effects on [physical functioning] that were independent of its effects on CD4 [counts] and [viral load]. For adherent patients, these adverse effects of HAART on [physical functioning] are likely to be outweighed by the positive effects that HAART exerts through lowering [viral load] and increasing CD4 [cell] counts" (p. 485).

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Tool Box

A Note About Content

This publication has been developed to help the frontline provider of HIV-related mental health services, allied professionals, and consumers stay up-to-date on research-based developments in HIV care. The contents for the "Biopsychosocial Update" are drawn from a variety of sources including, but not limited to: the *CDC HIV/STD/TB Prevention News Update* (<http://www.cdcnpin.org/news/prevnews.htm>); the *Kaiser Daily HIV/AIDS Report* (<http://report.kff.org/hivaids/>); and periodic literature reviews e-mailed by researcher Robert Malow, Ph.D. at the University of Miami. Other sources of information are identified when appropriate.

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It is presumed that readers have at least a fundamental understanding of medical, psychosocial, and neuropsychiatric considerations for assessing and intervening with people who are living with HIV/AIDS and their families. For additional background information, the following resources may be of assistance:

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